

REMARKS

This application has been reviewed in light of the Office Action dated October 15, 2002. Claims 1-4 and 15-28 are presented for examination, of which Claims 1 and 4 are in independent form. Non-elected Claims 5-14 have been canceled, without prejudice or disclaimer of the subject matter presented therein. Claims 1, 2, 4, 15-20, and 22-28 have been amended as to matters of form and/or to define more clearly what Applicants regard as their invention. Favorable reconsideration is requested.

Claims 1, 3, and 4 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,329,610 (Klein). Claims 2, 15, and 21 stand rejected under § 103(a) as being unpatentable over Klein in view of U.S. Patent No. 5,121,021 (Ward). Claims 16 and 22 stand rejected under § 103(a) as being unpatentable over Klein in view of Ward, and further in view of U.S. Patent No. 5,304,885 (Wong et al.). Claims 17-19 and 23-25 stand rejected under § 103(a) as being unpatentable over Klein in view of Ward, and further in view of U.S. Patent No. 3,095,515 (Case et al.). Claims 20 and 26 stand rejected under § 103(a) as being unpatentable over Klein in view of Ward, and further in view of U.S. Patent No. 5,949,172 (Katagiri). Claims 27 and 28 stand rejected under § 103(a) as being unpatentable over Klein in view of U.S. Patent No. 6,057,626 (Tanaka et al.).

Applicants submit that independent Claims 1 and 4, together with the claims dependent thereon, are patentably distinct from Klein for at least the following reasons.

The aspect of the present invention set forth in Claim 1 is directed to a dc motor that includes a stator with 2P poles, a rotor core, a commutator, and a concentrated winding rotor.

The rotor core includes a core of ferromagnetic material having a number slots S and a number of teeth S separated from a stator core by an airgap. The commutator has a number of segments greater than the number of rotor slots S. The rotor has a plurality of simple non-overlapping coils of insulated wire mounted on a same rotor tooth. Each coil is wound around a single tooth only, and a terminal of each of the coils is connected to different segments of the commutator.

Klein relates to a winding pattern for a motor. As understood by Applicants, Klein discloses a conventional motor with rotor windings made of simple coil elements that are interlocked. Klein teaches that, with an interlocked winding, the ratio between the axial length of end-windings and the axial length of the armature magnetic circuit is relatively high (see page 1 of the specification of the present application).

Nothing has been found in Klein that is believed to teach or suggest a dc motor that includes "a concentrated winding rotor, having a plurality of simple *non-overlapping* coils of insulated wire mounted on a same rotor tooth, *with each coil wound around a single tooth only*, and with a terminal of each of the coils being connected to different segments of the commutator," as recited in Claim 1. That is, Klein is understood to teach rotor windings with coil elements that interlock, whereas the motor of Claim 1 has rotor windings with coil elements that do not overlap, such that each coil is wound around a single tooth. Therefore, Klein is believed to teach away from what is claimed in Claim 1.

Accordingly, Applicants submit that Claim 1 is not anticipated by Klein, and respectfully request withdrawal of the rejection under 35 U.S.C. § 102(b). Independent Claim 4 includes a feature similar to that discussed above, in which rotor windings have coil elements

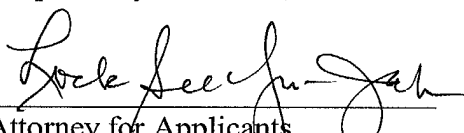
that do not overlap, such that each coil is wound around a single tooth. Therefore, Claim 4 also is believed to be patentable for at least the same reasons as discussed above.

The other rejected claims in this application depend from one or the other of the independent claims discussed above and, therefore, are submitted to be patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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